

WHAT IS CLAIMED IS:

1 1. A ventilated seat assembly for use with an air mover
2 comprising:
3 a seat having a generally horizontal cushion and a backrest,
4 at least one of the horizontal cushion and the backrest being ventilated
5 and including:
6 an air-permeable decorative exterior trim cover;
7 a bag including an air-impermeable top, an air-
8 impermeable bottom, and an opening configured to be coupled to
9 an air mover, the bag top including a plurality of holes arranged and
10 sized to provide air movement through the bag; and
11 a spacer located within the bag;
12 wherein some of the holes are located nearer the bag
13 opening than other holes and each hole has a cross-sectional area,
14 the holes located substantially the same distance from the bag
15 opening forming a group having a total cross-sectional area, the
16 bag including more than one group of holes, the total cross-
17 sectional area of each group of holes being greater than the total
18 cross-sectional areas of any groups of holes nearer the bag
19 opening.

1 2. The ventilated seat assembly of claim 1, wherein the plurality
2 of holes in the bag top are arranged and sized to provide a generally
3 uniform air movement through the bag.

1 3. The ventilated seat assembly of claim 1, wherein the spacer
2 comprises an upper netting layer adjacent the bag top, a lower netting
3 layer adjacent the bag bottom and a plurality of plastic fibers extending
4 between the upper netting layer and the lower netting layer.

1 4. The ventilated seat assembly of claim 1, wherein the bag top
2 includes an inner resin air-impermeable film layer and an outer covering of
3 foam.

1 5. The ventilated seat assembly of claim 1, wherein the bag
2 opening is configured to be coupled to a fan.

1 6. The ventilated seat assembly of claim 1, wherein the bag
2 opening is configured to be coupled to the vehicle's air conditioning
3 system.

1 7. The ventilated seat assembly of claim 1 further comprising
2 an electrically powered heater layer between the bag top and the exterior
3 trim cover.

1 8. The ventilated seat assembly of claim 1, wherein the bag
2 holes are arranged in a pattern generally corresponding to the contact
3 area an occupant would have with the seat.

1 9. The ventilated seat assembly of claim 1, wherein both the
2 horizontal cushion and the backrest are ventilated.

1 10. The ventilated seat assembly of claim 9, wherein the bag in
2 the horizontal cushion and the bag in the backrest are configured to be
3 coupled to a single air mover.

1 11. The ventilated seat assembly of claim 9, wherein the bag top
2 of the horizontal cushion and the bag top of the backrest are made from
3 an inner film resin layer and an outer covering of foam.

1 12. The ventilated seat assembly of claim 1, wherein the bag
2 opening is configured to be coupled to an air mover adapted to force air
3 into the bag and outwardly through the holes.

1 13. The ventilated seat assembly of Claim 12, wherein the bag
2 opening is configured to be coupled to a variable speed air mover.

1 14. The ventilated seat assembly of claim 1, wherein the bag
2 opening is configured to be coupled to an air mover adapted to suction air
3 from the bag and inwardly through the holes.

1 15. The ventilated seat assembly of claim 14, wherein the bag
2 opening is configured to be coupled to a variable speed air mover.

1 16. The ventilated seat assembly of claim 1, wherein the bag
2 opening is configured to be coupled to a reversible air mover adapted to
3 selectively draw air from the bag or force air into the bag.

1 17. The ventilated seat assembly of claim 1, wherein the bag
2 includes a first group of holes having a first total cross-sectional area and
3 being a first distance from the bag opening and a second group of holes
4 having a second total cross-sectional area and being a second distance
5 from the bag opening.

1 18. The ventilated seat assembly of claim 17, wherein the first
2 distance is greater than the second distance.

1 19. The ventilated seat assembly of claim 18, wherein the first
2 total cross-sectional area is greater than the second total cross-sectional
3 area.

1 20. A ventilated seat assembly comprising:
2 a seat having at least one of a generally horizontal cushion
3 and a backrest, the at least one of the horizontal cushion and the backrest
4 including:
5 an air-permeable decorative exterior trim cover,

6 a bag having an air-impermeable top, an air-
7 impermeable bottom, and an opening configured to be coupled to
8 an air mover, the top including a plurality of holes arranged and
9 sized to provide air movement through the bag; and
10 a spacer located within the bag;
11 wherein some of the holes are located nearer the bag
12 opening than other holes and each hole has a cross-sectional area,
13 the holes located substantially the same distance from the bag
14 opening forming a group having a total cross-sectional area, the
15 bag including a first group of holes a first distance from the bag
16 opening and a second group of holes a second distance from the
17 bag opening, the total cross-sectional area of the first group of
18 holes being different than the total cross-sectional area of the
19 second group of holes.

1 21. The ventilated seat assembly of claim 20, wherein the
2 plurality of holes in the bag top are arranged and sized to provide a
3 generally uniform air movement through the bag.

1 22. The seat assembly of claim 20, wherein the first distance
2 from the bag opening is greater than the second distance from the bag
3 opening.

1 23. The seat assembly of claim 22, wherein the total cross-
2 sectional area of the first group of holes is greater than the total cross-
3 sectional area of the second group of holes.

1 24. The seat assembly of claim 20, wherein the holes in the first
2 group are the same size.

1 25. The seat assembly of claim 24, wherein the holes in the
2 second group are the same size.

1 26. The seat assembly of claim 25, wherein the size of the holes
2 in the first group is greater than the size of the holes in the second group.

3 27. The seat assembly of claim 25, wherein the size of the holes
4 in the first group is different than the size of the holes in the second
5 group.

1 28. A ventilated seat assembly for use with an air mover
2 comprising:

3 a seat having a generally horizontal cushion and a backrest,
4 at least one of the horizontal cushion and the backrest being ventilated
5 and including:

6 an air-permeable decorative exterior trim cover;

7 a bag including an air-impermeable top, an air-
8 impermeable bottom, and an opening configured to be coupled to
9 an air mover, the bag top including a plurality of holes, some of the
10 holes being located nearer the bag opening than other holes and
11 each hole having a cross-sectional area; and

12 a spacer located within the bag;

13 wherein the arrangement of the holes and the cross-
14 sectional areas of the holes are configured to provide a generally
15 uniform flow of air through the holes when the bag is coupled to an
16 air mover.

1 29. A ventilated seat assembly for use with an air mover
2 comprising:

3 a seat having a generally horizontal cushion and a backrest,
4 at least one of the horizontal cushion and the backrest being ventilated
5 and including:

6 an air-permeable decorative exterior trim cover;

7 a bag including an air-impermeable top, an air-
8 impermeable bottom, and an opening configured to be coupled to
9 an air mover, the bag top including a first region a first distance
10 from the opening and a second region a second distance from the
11 opening, the first region and the second region having substantially
12 the same area, the first region including a first set of holes having a
13 first total cross-sectional area, and the second region including a
14 second set of holes having a second total cross-sectional area; and
15 a spacer located within the bag;
16 wherein the first region is closer to the bag opening
17 than the second region and the first total cross-sectional area is
18 less than the second total cross-sectional area.